

### **Remarks**

This Amendment is responsive to the Office Action of **April 4, 2003**. Reexamination and reconsideration of **claims 1-25** is respectfully requested.

### **Summary of The Office Action**

**Claims 1, 5, 7-10, 12 and 14** are rejected under 35 U.S.C. (102(e) as being anticipated by Chakrabarti et al. (U.S. Pat. No. 6,418,433).

**Claims 2-4, 6, 11, 13, and 15-25** are rejected under 35 U.S.C. 103(a) as being unpatentable over Chakrabarti (U.S. Pat. No. 6,418,433) in view of Jawahar (U.S. Pat. No. 6,256,620).

### **The Present Claims Patentably Distinguish Over the References of Record**

Claim 1 is directed to a method of determining a relevance rank for each of a plurality of pages identified by a search query. Claim 1 recites determining a content-based relevance rank for each of the pages based on a content of each page and adjusting the content-based relevance rank of each page based on a link structure of the pages including link rank values from incoming links.

Claim 1 was rejected under 35 U.S.C. §102(e) as being unpatentable under Chakrabarti et al. (the '433 patent). The Office Action, at the top of page 3, indicates that the adjusting step is taught by Figure 2, components 112-118, column 6, lines 16-35, and column 8, lines 35-41 of the '433 patent. [The applicant respectfully submits that the '433 patent fails to teach or fairly suggest adjusting the content-based relevance rank of each page based on a link structure of the pages including link rank value from in-coming links as recited in claim 1.]

The '433 patent discloses a system whose purpose is to generate a database that contains information on only web pages that pertain to a topic or topics of interest, i.e., a focused database (column 5, lines 14-17). A relevance is determined for each page based on how its content

relates to the topic of interest. If the relevance is “good,” it is included in the database. The relevance of a page is not adjusted by a link structure of the pages and [no suggestion is made to adjust the content-based relevance rank based on a link structure.] The relevance of a page can be revised when the page is revisited and its content is reevaluated.

Since the ‘433 patent describes a focused database, its purpose is to limit the amount of web pages in the database. The system considers out-links and in-links of a web page in order to gather additional web pages for the database in certain circumstances. For example, when a gathering rate of relevant pages is below a panic threshold, all out-links and in-links of a web page can be considered (see column 3, lines 32-39). Column 6, lines 16-35 of the ‘433 patent also explain how in-links and out-links are stored. However, the relevance of a web page connected by a link is determined based on the content of that web page as related to the topic of interest. Therefore, [there is no teaching or suggestion that a relevance of a page is adjusted or otherwise affected by incoming and/or outgoing link values] Thus, the ‘433 patent fails to teach or suggest the recited features of claim 1. Claim 1 thus patentably and unobviously distinguishes over the references of record and is in condition for allowance. Accordingly, claims 2-8, dependent from claim 1, also patentably distinguish over the references of record.

Additionally, the ‘433 patent teaches determining whether a page “good” in terms of relevancy to the predefined topic or not (see column 10, lines 4-15). Since a focused database is being built, once a page is determined to be “good” as a relevant page, it is included in the database. Adjusting the relevance of a page may occur if the page is revisited and the system determines that its content has changed such that it is no longer relevant to the predefined topic. However, there is no teaching or suggestion to change the relevance of a page based on anything other than its own content. Indeed, [there is no teaching or suggestion to adjust the relevance of a page based on a link structure of the pages including link-rank values from in-coming links as recited in claim 1] Therefore, claim 1 patentably distinguishes over the references of record and is in condition for allowance.

Independent claim 9 is directed to a system for determining a relevance rank for each page of a candidate set of pages identified by a search query. The system comprises a content

analyzer logic for obtaining a content-based relevance rank for each of the pages based on a content of each page. Claim 9 further recites a relevance rank analyzer for obtaining a relevance rank for each page where the relevance rank for a page being obtained by combining the content-based relevance rank of the page with a link analysis rank from in-coming page links.

Claim 9 was rejected as being unpatentable over Chakrabarti (the '433 patent). As explained above, the '433 patent fails to teach or fairly suggest adjusting the relevance of a page based on a link structure of the pages. Therefore, [the '433 patent also fails to teach or fairly suggest a relevance rank analyzer that combines the content-based relevance rank of a page with a link analysis rank from in-coming page links as recited in claim 9.]

The '433 patent determines the relevancy of a page in terms of being "good" or not good in relation to a predefined topic based on its content. Once a page is determined to be "good" it is included in the focused database and when it is not good, the page is pruned (see column 10, lines 44-53). The relevancy of a page is based on its content but there is no teaching or suggestion that the relevancy can be changed or modified in any way except for revisiting a page and reevaluating its content. There is no mention or consideration for combining a relevance rank with a link analysis rank. Therefore, the '433 patent fails to teach or suggest the claimed features of independent claim 9. Claim 9, therefore, patentably and unobviously distinguishes over the references of record and is in condition for allowance. Accordingly, dependent claims 10-14 are also in condition for allowance.

Independent claim 15 is directed to a system for determining a relevance ranking for pages obtained from a network search query. Claim 15 was rejected as being unpatentable over Chakrabarti (the '433 patent) in view of Jawahar et al. (U.S. Pat. No. 6,256,620) (the '620 patent). As explained previously, although the '433 patent stores incoming and outgoing links from web pages in order to expand the focused database, it [fails to teach or suggest a link analysis logic for determining a link ranking for each of the outgoing links for each of the pages as recited in claim 15.] The '433 patent further fails to teach or fairly suggest [a relevance rank adjuster for determining and adjusting a relevance rank of a page by combining the content relevance rank with the link rankings associated to incoming links for the page as recited in claim 15.] The '433 patent determines the relevance of a page based on its content in relation to

a topic of interest but there is no teaching or suggestion for combining the content relevance with link rankings associated to incoming links.

The Office Action attempts to cure the shortcomings of the '433 patent by combining the teachings of the '620 patent. In particular, the '620 patent was indicated to teach an access monitoring application which includes a link ranking representing a probability of leaving an associated page by the outgoing link and identifies Figure 9, step 272, and column 16, lines 49-51. The applicant respectfully submits that the teachings of the '620 patent, even when combined with the '433 patent, fail to teach or fairly suggest independent claim 15.

In particular, starting at line 50 in column 15 of the '620 patent, it describes a procedure for determining whether to display a "Help" button to a user. The procedure determines the total time the user has viewed a particular web page which may indicate an interest in the content of the web page. The system can automatically display a "Help" button to a user after the web page is viewed for a predetermined period of time. This allows a user to request help from an agent regarding the product or service offered by the web page (column 16, lines 1-10). The applicant respectfully submits that no description has been found in the '620 patent that suggests that the time spent viewing a web page represents a probability of leaving the web page by an outgoing link. The purpose of monitoring the time spent on a web page seems is used to determine content the user is interested in, e.g. a user's interest in a particular product or service offered by a company (see column 15, lines 45-49). The system is not concerned with determining relevance rankings for pages obtained from a network search query. Indeed, the time spent viewing a web page is not used to change the relevance rank of a page from a search query. Therefore, the teachings of the '620 patent fail to cure the shortcomings of the '433 patent.

Furthermore, modifying the '433 patent to include a monitoring system to measure the time spent viewing a web page does not offer any suggestion to one skilled in the art as to how the "good" or "not good" relevancy of a page can be changed, modified, or combined with a link ranking. Therefore, none of the cited references teach or fairly suggest the recited features of claim 15. Claim 15, thus, patentably and unobviously distinguishes over the references of record and is in condition for allowance. Accordingly, dependent claims 16-19 are also in condition for allowance.

Independent claim 20 is directed to a method of ranking a set of candidate pages in response to a search query. Claim 20 recites that a content-based relevance rank is assigned to each candidate page based on a probability that a user will stay on a selected candidate page, and adjusting the content-based relevance rank of each candidate page where the relevance rank is influenced by a quantity and relevance of candidate pages that point to the selected candidate page. Claim 20 further recites that the candidate pages are ranked based on the adjusted content-based relevance rank.

The Office Action, on page 9, indicates that the '433 patent achieves the adjusting the content-based relevance rank of each page by determining "relevance priority of the pages" and ranking the candidate pages based on the adjusted rank. Applicants respectfully submit that the "priority" described in the '433 patent is used to determine how often a page is to be revisited in order to reevaluate its relevance based on any changes in content. The priority does not appear to change the relevance of a page. For example, column 8, lines 40-41 of the '433 patent states that pages and links are revisited at a frequency based on their priority. Revisitation is to check for subsequent changes (see column 10, lines 32-34).

Furthermore in the '433 patent, if page is irrelevant, it is not added to the database and its outlinks are not stored by the system (column 10, lines 24-30). If a page is relevant, its outlinks are recorded (column 10, lines 35-56). There is no teaching or suggestion in the '433 patent to adjust the content-based relevance rank for a selected page where the relevance rank is influenced by a quantity and relevance of candidate pages that point to the selected page as recited in claim 20. In the '433 patent, once a selected page is determined to be relevant, it is added to the database and any pages that point to the selected page do not influence the selected page's relevance rank. Furthermore, the relevance as taught by the '433 patent is not based on a probability that a user will stay on a selected candidate page as recited in claim 20.

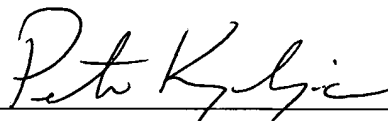
Modifying the teachings of the '433 patent with the teachings of the '620 patent still fails to teach or suggest the features of claim 20. As stated previously, there is no suggestion in the '620 patent that relates the time spent on a web page to the probability that a user will stay on the web page. The time spent of a web page is only relevant at that specific moment in time and does not relate to a search query. There is no suggestion in the '620 patent for using the time

spent data with a search query. Therefore, modifying the system of the '433 patent to include a time monitoring feature does not teach or suggest the recited features of claim 20. Claim 20, thus, patentably and unobviously distinguishes over the references of record and is in condition for allowance. Accordingly, dependent claims 21-25 are also in condition for allowance.

### **Conclusion**

For the reasons set forth above, **claims 1-25** patentably and unobviously distinguish over the references of record and are now in condition for allowance. An early allowance of all claims is earnestly solicited.

Respectfully submitted,

 July 7, 2003  
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